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SILENCE.

[From a Print by Sir Robert Strange, after the Picture by Annibale Carracci.]

"ART thou a thing of mortal birth,
Whose happy home is on our earth?
Does human blood with life embue
Those wandering veins of heavenly blue
That stray along thy forehead fair,
Lost 'mid a gleam of golden hair?
Oh! can that light and airy breath
Steal from a being doomed to death?
Those features to the grave be sent,
In sleep thus mutely eloquent?
Or art thou, what thy form would seem,
The phantom of a blessed dream?

Oh! that my spirit's eye could see
Whence burst those gleams of ecstasy!
That light of dreaming soul appears
To play from thoughts above thy years.
Thou smil'st as if thy soul were soaring
To heaven, and heaven's God adoring:
And who can tell what visions high
May bless an infant's sleeping eye?"

The above lines, descriptive of an infant's sleep, by Professor Wilson, are not inappropriately introduced in this place, the repose of a child being exhibited with so much truth and effect, and forming so prominent a circumstance in the painting under consideration. The same lines form the Introduction to the description of this picture in the great national work the 'Musée Français.' The picture, which is called 'Silence,' scarcely needs an explanation, its story being told with so much simplicity as to be at once understood. St. John, being desirous of the company of the infant Jesus, is about to awake him, but is checked by the interposition of the mother, who, with her finger on her lip, enjoins him not to disturb his repose. The principal figure, as well in the intention of the artist as in the perfection of its art, is undoubtedly that of the sleeping child. It is difficult to conceive how the most engaging of spectacles—the soft and happy slumber of a child—could be more correctly represented. The whole frame is abandoned to the listlessness of repose, while the features exhibit such an expression of quiet enjoyment as results from those flitting impressions which probably supply the place of connected dreams to a sleeping child. The inquiring expression in the countenance of the elder boy and the quiet tenderness of the Virgin are also beautifully depicted, although not remarkable in an equal degree with the attitude and expression of the principal figure.

The Bolognese School of Painting was formed at Bologna, in Italy, during the sixteenth century, by the three Carracci—Ludovico, and his two cousins, Agostino and Annibale, who were brothers. Annibale had previously followed the calling of his father, who was a tailor; and

he is considered the most celebrated member of this school. Ludovico's powers of invention were perhaps greater, and Agostino's merits as a teacher more considerable, but undoubtedly Annibale possessed the highest genius. The peculiar merit of each of the three may perhaps be better understood by stating that Ludovico reminds us of Titian, Agostino of Tintoret, and Annibale of Corregio. Annibale possessed, in an extraordinary degree, the facility of sketching to the life whatever came in his way. Having once been robbed, he proceeded to a magistrate, and, instead of giving a verbal description of the thieves, he produced a faithful sketch of their persons, thus showing that a moment of so much excitement had not deprived him of the extraordinary power which he possessed of retaining in his mind the impression of objects. He was of a somewhat careless disposition, but not a man to be offended with impunity. Being provoked on one occasion to fight a duel, he gaily replied,—"As for me I only fight with my pencil. Behold my arms." And at another time, when upbraided by his brother for the little care which he exercised in selecting his associates, he merely occupied himself with making a sketch of his father and mother, with needle and scissors in hand; and, at the close of his brother's lecture, showed it to him for the purpose of reminding him that they had both been brought up in a tailor's work-room. Annibale Carracci was occupied above eight years at the Farnese Gallery, for which the cardinal by whom he was employed only paid him 500 gold crowns. This was so mean a reward for his talents and labour that he would have returned them had he not been persuaded to the contrary. He was, however, so much affected with the ingratitude shown towards him, that it occasioned an illness, of which he died not long after, in his forty-ninth year. He was interred by the side of Raphael, in the church of the Pantheon, at Rome.

The principles of the Bolognese school were a close observation of nature combined with an imitation of the best masters. The rules particularly insisted upon by Annibale were, that a perfect picture should not consist of more than three groups, and not more than twelve figures. An air of repose, grace, and dignity were the qualities which he aimed at infusing into his compositions. Subordinate figures he skilfully threw into the shade, in order that the eye might rest on the principal characters and the more animated portion of the picture.

MINERAL KINGDOM.—SECTION XXXIII.

LEAD.

THE appearance of this substance in its metallic state is familiar to every one. It is one of the most useful of mineral substances, and forms one of the most valuable products of the mines of Great Britain. Its specific gravity is considerable, being more than eleven times the weight of an equal bulk of water. It is malleable, and with ease may be reduced into very thin plates; but it is liable to crack under the hammer. It is so far ductile as to be capable of being drawn into wire $\frac{1}{16}$ part of an inch in thickness, but its tenacity is very low; for a wire of that diameter breaks with a weight a little exceeding eighteen pounds. As it possesses no elasticity, it is incapable of compression, and differs in that respect from all the other ductile metals, which diminish in volume, and, consequently, increase in density, under the hammer; but lead has the same specific gravity when it is simply melted as when it is beat or rolled out into plates. It is the least sonorous of all the metals. It is easily fusible, melting at 612°, or a heat less than three times that of boiling water; but not so easily as tin, which melts at the temperature of 442°. When first melted, or when cut, it has a brilliant lustre; but this shining surface, however, is soon tarnished by attracting oxygen and carbonic acid from the air: but this coating of carbonated oxide, once acquired, protects it from farther change. Water has no action upon it; and hence its usefulness for cisterns and pipes. When exposed to the continued action of a stream of hot air, it rapidly acquires oxygen, and is converted into a substance which is called "litharge."

Lead has been sometimes found in the pure, or native, state; but very rarely, and always in small quantity. It is one of the metals which is found in the greatest variety of combinations: but there is only one kind of ore which is very abundant; the rest are chiefly known as objects of interest to the mineralogist; —many of them afford very beautiful specimens for the cabinet. The common ore is a combination of eighty-six parts of lead and fourteen of sulphur, and is called usually by the name of *Galena*, or sulphuret of lead. It very often contains silver, and in sufficient quantity to pay the expense of a process for separating it. That of the north of England contains from 2 to 24 ounces of silver to the ton, and the average quantity is 11½ ounces. The galena of the mine Huel Pool, in Cornwall, yielded 60 ounces; of Guarnock Mine, near Truro, 70 ounces; and a mine near Beeralstone, in Devonshire, yielded galena so rich as to give 135 ounces of silver to the ton. A great proprietor of lead-mines in the north of England had a splendid service of plate made of the silver so separated from the lead-ore.

In geological position, lead is most abundantly met with in the lower strata of the secondary sedimentary deposits, especially in the carboniferous limestone. (O, in Diagram No. 1, 'Penny Magazine' No. 51.) It is found also in considerable quantity in the strata below these, in the grauwacke, clay-slate, mica-slate, and even in gneiss, which is the lowest of the stratified rocks. (Q and R of Diagram No. 1.) It is found also, but more rarely, in the unstratified rocks, both in granite and in trap; but in all the instances that have been mentioned, the granite and trap have always been associated with stratified rocks containing lead-ore. It is occasionally found in the coal-measures (M), but not hitherto in any of the strata above the coal. Galena, next to pyrites, or sulphuret of iron, is the most common of the metallic ores, and it is found in almost every country of the globe; but there are large tracts without any deposits of it in sufficient abundance to be worked.

England produces annually nearly three times as much lead as all the other countries of Europe put together. The chief mines are in the north of England, in Derbyshire, North Wales, and Devonshire, on the borders of Cornwall. The great seat of the north of England mines is in that high district, around the mountain of Cross Fell, where the counties of Northumberland, Cumberland, Westmoreland, the North Riding of Yorkshire, and Durham, meet, as it were, in a central point, and from which they radiate. The mines first become of importance on Muggleswick Moor, on the borders of Northumberland and Durham, about twenty-seven miles from the east coast of Sunderland, and at Blanchland, on the river Derwent, a little to the west of Muggleswick; and they continue to the summit of Cross Fell. Aldstone Moor, in Cumberland, and Dufton, in Westmoreland, are important places in this district; and there are mines in Weardale, Teesdale, Allendale, and Askendale. Mr. Forster reckons that, in this part of England, there are no less than 175 lead-mines, which either have been or are now worked. The prevailing rock is the carboniferous limestone,—that great deposit which lies immediately under the coal-strata in most parts of England. It is associated with strata of sandstone and slate; and there are about twenty different beds of limestone which the miners distinguish by distinct names. The series of strata at

Aldstone Moor, according to a section given by Mr. Winch, consists of about sixty alternations of slate, sandstone, and limestone, in 159 fathoms, or 954 feet. The whole are covered by the coarse sandstone commonly known by the name of "millstone grit." The above dimensions are only a part of the strata where they are bored through in sinking the well, or shaft of a mine; but if we include the whole deposit from the upper surface of the Old Red Sandstone, on which the series rests, we obtain a total thickness of nearly 2800 feet. Beds of trap, one of which is particularly designated the "Whin Sill," a miner's term, are interposed between the strata in several places. The lead-ore occurs in veins, which traverse the strata in various directions, and in many irregular ways, sometimes being very slender, at other times extending to great widths. They are usually of larger dimensions in the limestone than in the slate and sandstone: one vein, which is seventeen feet in a limestone stratum, contracts to three feet in the sandstone below; and they are always much richer in ore, even in proportion to their magnitude, in the limestone. That part of the series which is richest in lead does not exceed 300 feet. The mineral substances which accompany the ore, forming what is called the "vein stone," are calcareous spar, fluor spar, quartz, and a few others of less frequent occurrence. The mines in this part of England have yielded, of late, on an average, about 25,000 tons of lead annually, which is more than one-half of the whole produce of Great Britain; and of that amount nearly a third is obtained from the mines belonging to Greenwich Hospital. In the year 1831, 28,000 tons were raised from the mines of Cumberland, Northumberland, and Durham.

The lead-mines of Derbyshire are situated in the north-western part of the county, extending as far south as the neighbourhood of Matlock. That district is almost wholly composed of the carboniferous limestone, which is surrounded on all sides by the millstone-grit that lies above it. The limestone is very much disturbed in its stratification, and is intersected by dikes and beds of trap. There are limestones of various qualities and colours in the series, chiefly of a grey and fawn colour, but sometimes quite black; and several of the beds being of a texture which receives a good polish, they are used as marbles for architectural and ornamental purposes. The limestone-beds contain numerous great caverns, which are often visited by travellers. The ore is galena; but it contains in general too little silver to repay the cost of extracting it. The vein-stones that accompany the lead-ore are usually calcareous spar and fluor; the latter being the substance which is so generally known by the name of "Derbyshire Spar,"—a beautiful mineral, and capable of forming handsome vases, and such like ornaments. This mineral is a compound of lime with a peculiar acid, which, from having been first found in it, was called "fluoric acid." Farey, in his 'Mineral Survey of Derbyshire,' enumerates no less than 280 mines which had been, or were then (1811), working.

Next in importance to the mines of the north of England, those in North Wales, in Flintshire, and in Denbighshire, are the most productive: a small quantity is raised in Shropshire, and in the neighbourhood of Tavistock in Devonshire. Lead-ore has been found in different places in the Isle of Man, and mines were worked there in the reign of Henry IV.; they were even in some activity as late as the early part of the last century, but they are now almost given up. It is found in the counties of Down and Wicklow in small quantities, sufficient, however, to be worth working. The lead-mines of Scotland are more productive. The most important are those situated in the grauwacke, or slate-rocks, composing the range of hills which runs quite across the south of Scotland, from St. Abb's Head, north of Berwick, and in that part of it called Lead Hills and Warlock Head, on the borders of the counties of Lanark and Dumfries, north-east of Sanquhar. These mines were discovered in the year 1540, and have yielded large revenues to the proprietors ever since. The veins traverse the grauwacke rock from north to south, and vary considerably in thickness, some of the principal ones being from four to ten feet in width. At one time, the Susannah vein exhibited a mass of solid ore no less than fourteen feet thick; this was probably a junction into one of several small veins. Some years ago, the mines of Lead Hills and Warlock Head together yielded about 2400 tons annually. Lead has been wrought at Tyndrum, in Argyleshire, where the ore is found in a bed of quartz, which is part of a series of strata of the primary rock, mica slate; and also at Strontian, in the same county, where the galena traverses gneiss, the oldest of the primary strata. The produce of the different lead-mines in Scotland was at one time estimated to amount to 4800 tons, but it has, of late years, fallen off very considerably. Mr. Taylor, in his 'Records of Mining,' gives an account of the quantity of lead raised from the mines of Great Britain in the year 1828, which, he says, was the result of a careful inquiry among those best acquainted with the subject. It is as follows:—

	Tons.
North of England Mines	26,700
Derbyshire and Shropshire	4,800
Devonshire and Cornwall	2,000
Flintshire and Denbighshire	12,000
Scotland	1,000
Ireland, Isle of Man, &c.	500
	47,000

Five years prior to this, the whole amount was only 36,000.

Nuisances.—The idle levy a very heavy tax upon the industrious, when, by frivolous *visitations*, they rob them of their time. Such persons beg their daily happiness from door to door, as beggars their daily bread; and, like them, sometimes meet with a rebuff. A mere gossip ought not to wonder if we evince signs that we are tired of him, seeing that we are indebted for the honour of his visit solely to the circumstance of his being tired of himself. He sits at home until he has accumulated an intolerable load of *ennui*, and he sallies forth to distribute it amongst all his acquaintance. —*Colton's Lacon.*

Hair and Nails of the Dead.—It sometimes happens that the hair and nails continue to grow after death, notwithstanding the decomposition of the body. The 'Journal des Savans' mentions a female whose hair was found, forty-three years after the interment of the body, to have forced itself through the chinks of the coffin. This hair crumbled on being touched. During the middle ages, such phenomena caused the dead to be regarded as sorcerers. Their bodies were dug up, and, after having been burnt, the ashes were scattered to the winds.

Elephant.—The first instance of an elephant being brought to the west was in the year 807, when the Caliph Haroun al Rashid presented one to Charlemagne. The first which came to England was presented by the King of France to King Henry III., in the year 1255; a notice of the arrival, as well as a sketch of which was preserved by Matthew Paris, in his own manuscript of his 'Chronicle,' now preserved in the British Museum. (MS. Cotton. Nero, D. I.) It arrived at Sandwich, and was conveyed to the Tower of London, where the sheriffs of London had been directed, by the king's precept, to build a house for it, forty feet in length and twenty in breadth. (Rot. liberat. 39 Henry III., m. 11, Rot. Claus. ejusd. anni, m. 16.) The animal was ten feet in height to the top of the back, and was ten years old. It lived to the forty-first Henry III., in which year it appears upon the Chancellor's Rolls that, for the maintenance of the elephant and his keeper from Michaelmas to St. Valentine's Day, immediately before the elephant died, the charge was no less than 16*l.* 13*s.* 1*d.* Its keeper was one John Geach.

CHINESE MODE OF FISHING WITH CORMORANTS.

Cormorant-fishing in China.

The Cormorant belongs to a genus of aquatic birds, of which there are about fifteen varieties. The distinctive characteristic of the order consists in the peculiar formation of the foot. The outer toe is the longest, and edged externally by a small membrane; the webbing membrane is broad, full, and entire; the hind toe is half as long as the middle, and all are provided with broad curved claws, but not sharp, and the middle toe is serrated so as to retain with security the slippery prey on which this bird feeds. The cormorant is an excellent swimmer and diver, and also flies well, and the voracity for which it is proverbially famed calls into constant activity the peculiar faculties with which nature has enabled it to satisfy its craving appetite. As soon as the cormorant perceives its prey it darts upon it with destructive rapidity, and soon retains it in security by means of the saw-like indentations of its middle toe. With the aid of the other foot the fish is brought to the surface of the water, and then tossed upwards by an adroit motion so as to be seized by the head. By this means it is swallowed without the fins offering any resistance. The throat of the cormorant is susceptible of considerable expansion, should any obstacle occur in taking its prey. Cormorants are

fond of society, and, except in the pairing season, they are generally found in flocks, and often in company with other water-fowl, which are unmolested except when the greediness of the cormorant tempts it to snatch from them their prey. Owing to its activity and success in fishing, the services of the cormorant have been made use of in another element in the same manner as the falcon. Faber has described the manner in which these operations were carried on. He says,—"When they carry them out of the rooms where they are kept to the fish-pools, they hoodwink them, that they may not be frightened by the way. When they are come to the rivers, they take off their hoods, and having tied a leather thong round the lower part of their necks, that they may not swallow down the fish they catch, they throw them into the river. They presently dive under water; and there, for a long time, with wonderful swiftness, pursue the fish; and when they have caught them, rise to the top of the water, and pressing the fish lightly with their bills, swallow them; till each bird hath, after this manner, devoured five or six fishes. Then their keepers call them to the fist, to which they readily fly; and, one after another, vomit up all their fish, a little bruised with the first nip given in catching them. When they have done fishing, setting the birds on some high place, they loose the string from their necks, leaving the passage to the stomach free and open; and, for their reward, they throw them part of their prey; to each one or two fishes, which they will catch most dexterously, as they are falling in the air."

The practice described by Faber has long been extinct in England, but it is in use in China at the present day. The Chinese cormorant is of a blackish brown on the upper part of its body, the lower parts are whitish, spotted with brown, and the throat is white. The plate represents the manner in which the fishing is managed on the lakes and canals of China, and the process is explained in the following extract from Le Comte, an old French writer:—"To this end cormorants are educated as men rear up spaniels or hawks; and one man can easily manage a hundred. The fisher carries them out into the lake, perched on the gunwale of his boat, where they continue tranquil, and expecting his orders with patience. When arrived at the proper place, at the first signal given each flies a different way, to fulfil the task assigned it. It is very pleasant, on this occasion, to behold with what sagacity they portion out the lake or the canal where they are upon duty. They hunt about, they plunge, they rise a hundred times to the surface, until they have at last found their prey. They then seize it with their beak by the middle, and carry it without fail to their master. When the fish is too large, they then give each other mutual assistance: one seizes it by the head, the other by the tail, and in this manner carry it to the boat together. There the boat-man stretches out one of his long oars, on which they perch, and being delivered of their burden, they then fly off to pursue their sport. When they are wearied he lets them rest for a while; but they are never fed till their work is over. In this manner they supply a very plentiful table; but still their natural gluttony cannot be reclaimed even by education. They have always, while they fish, the same string fastened round their throats, to prevent them from devouring their prey, as otherwise they would at once satiate themselves, and discontinue the pursuit the moment they had filled their bellies."

NARRATIVE OF THE LOSS OF THE EARL OF ELDON BY FIRE.

[From a Correspondent.]

On the 24th of August, 1834, I embarked on board the ship *Earl of Eldon*, of London, 600 tons, Captain Theaker, at Bombay, with a view of returning to my native land on furlough. She was one of the finest and strongest ships in the trade; and any insurance might have been had on the chances of her successfully resisting the winds and waves. She was laden with cotton: and, as the number of passengers was small, the space between decks was quite filled up with cotton-bales, screwed so compactly and tightly as to render it a matter of more difficulty to take them out than it had been to put them in. The number of individuals on board were forty-five, including three ladies and an infant, and the captain and his crew. It unfortunately happened that the cotton had been brought on board in a damp state. It had probably been wetted by heavy rains as it was brought down from the gulf, and had not been dried at the warehouse previously to being screwed. This operation is performed by a very powerful compression; and it seems not unlikely that the fire-damp may be generated within, in the same manner as in a hay-stack when it has been stacked damp.

On the 26th of September, after a series of baffling winds and calms, and heavy rain with squalls of wind, we got into 7° 27′ south latitude; and the trade-wind appeared to have fairly caught hold of our sails. We began now to anticipate our arrival at the Cape. On the morning of the 27th I rose early (about half-past five) and went on deck. I found one of my fellow-passengers there; and we perceived a steam apparently arising from the fore-hatchways. I mentioned at the time to H—— that I thought it might be caused by fire-damp; and, if not immediately checked, might become fire. The captain came on deck, and I asked him what it was; he answered steam; and that it was common enough in cotton-loaded ships when the hatches were opened. I said nothing; but the smoke becoming more dense, and beginning to assume a different colour, I began to think that all was not right; and also that he had some idea of the kind, as I saw the carpenter cutting holes in the deck just above the place whence the smoke appeared to come.

I went down to dress; and, about half-past six, the captain knocked at my door, and told me that part of the cotton was on fire, and he wished to see all the gentlemen-passengers on deck. We accordingly assembled, and he then stated the case to be this:—that some part of the cargo appeared to have spontaneously ignited, and that he purposed removing the bales until they should discover the ignited ones, and have them thrown overboard, as well as those which appeared to be in the same damaged condition; and that it being necessary, in his opinion, to do this, he deemed it his duty to lay the case before us. We of course submitted everything to his judgment; and he ordered the hands to breakfast as quick as possible, and to work to discover the source of the fire.

After breakfast, he said there did not appear to be any immediate danger, and that he hoped we might be able to avert it altogether. However, about eight o'clock, the smoke became much thicker, and began to roll through the after-hatchway, the draught having been admitted forward in order to enable the men to work. Several bales were removed, but the heat began to be intolerable below, and the smoke rolled out in suffocating volumes; and, before nine o'clock, we discovered that part of the deck had caught fire, which obliged the men to discontinue their labours. The captain then ordered the hatches to be battered down, with a view to keep the fire from bursting out; and to hoist out all the boats, and stock them in case of necessity. This was done; and, about half-past one, the three ladies, two sick passengers, an infant, and a female servant, were put into the longboat, with 216 gallons of water, 20 gallons of brandy, and biscuit for a month's consumption; together with such pots of

jam and preserved meats as we could get at, and the day's provision of fresh and salted meat. It was now about two o'clock: the hatches were then opened, and all hands set to work to endeavour to extinguish the fire. The main hatchway being lifted, and a tarpauling removed, there was a sail underneath which was so hot that the men could hardly remove it. When they did, the heat and smoke came up worse than ever; and it being now known, from inspection, that the fire was underneath that part, orders were given to hoist out the uppermost bales in order to get at those that were burning underneath. But when the men laid hold of the lashings to introduce a crane-hook they were found to have been burnt through beneath, and came away in their hands. The case now appeared bad indeed. However, we cut a bale open, and tried to remove it by handfuls; but the smoke and heat became so overpowering that no man could stand over it; and water, in the quantities we dared to use it, only seemed to increase it; for had the captain ventured to pump water into the ship sufficient to extinguish the fire, the bales would have swelled so much as to burst open the deck, or have increased so much in weight as to sink the ship, so that either way destruction would have been the issue.

Under these circumstances, perceiving the case to be utterly hopeless, the captain called us together on the poop, and asked if any one could propose any expedient likely to avail in extinguishing the fire and saving the ship? as in that case, said he, we will stick by her whilst a hope remains. It was unanimously agreed that all had been done that could be done: the men were all perfectly sober, and had been most arduous in their exertions; but one and all seemed coolly and positively decided that the case was hopeless. The heat was increasing so much that it became dangerous to leave the poop; the captain therefore requested the gentlemen to get into the boats; next he embarked his men, and at three o'clock he himself left the ship, the last man who did so, just as the flames were bursting through the quarter-deck. We then put off the two boats, towing the longboat. The progress of the ship had been previously stopped by backing her yards; and when we were about a mile from her, she was in one blaze, and her masts began to fall in. Between eight and nine all her masts had fallen in, and she had burnt to the water's edge; suddenly there was a bright flash, followed by a dull and heavy explosion, the fire having reached the powder. For a few seconds the splinters and flaming fragments glittered in the air, and then all was darkness, for the waters had closed over the *Earl of Eldon*.

Sad was the prospect now before us! There were in the longboat the captain and twenty-five persons, including an infant four months old; the size of the boat 23 feet long by 7½ broad; in each of the others ten individuals, including the officer in charge. One of the boats had some bags of biscuit, but the chief provision was in the longboat. We were, by rough calculation, above 1000 miles from Rodrigue, and 450 from Diego Garcias, the largest of the Chagos Islands; but to get there we must have passed through the squally latitudes we had just left, and been subject to variable winds and heavy weather or calms, neither of which we were prepared to resist. Seeing, then, that our stock of food was sufficient, we determined on trying for Rodrigue, and having humbly committed ourselves to the guidance of that Providence, in whom alone we had hope, we accomplished rigging the boats, and got under sail. On the 3rd day of our boat-navigation the weather began to threaten a change, but as we were in the trade we did not apprehend foul or contrary winds. In the course of the night it blew fresh with rain; we were totally without shelter, and the sea dashing its spray over us, drenched us, and spoilt a great part of our biscuit, though we happily did not discover this until we had almost ceased to want it. The weather grew worse, and one of our small boats, in which were Mr. Simpson, the second mate, with nine others, was split by the sea. She came alongside, and we put the carpenter into her, who made what repairs he could, but with little hope that they would answer. We then proceeded to fasten a spray-cloth of canvass along our weather gunwale, having lashed a bamboo four feet up the mast, and fixed it on the intersection of two stancheons, at the same height above the stern, the spray-cloth was firmly lashed along so as to form a kind of pent-house roof. Had it not been for this imperfect defence, we must have been swamped; and even as it was, we still shipped seas to so great an extent that four men were obliged to be kept constantly employed in baling to keep her clear of water. Towards evening it blew hard, with a tremendous sea, and not thinking the other damaged boat safe, we took in the crew, and abandoned her. We were now thirty-six persons, stowed as thick as we could be, and obliged to throw over all superfluities, and we had not more than eight inches of clear gunwale out of the water. Wet, gloomy, and miserable, the night passed away; at last the day broke, and though the weather was still very bad, I again felt hope, which had never entirely forsaken me, that we should still weather the storm. During the last night the sea had broken right over us more than once; one tremendous sea came roaring down, and while I held my breath with horror, it brake right over our stern, wetted the poor ladies to their throats, and carried away the steersman's hat. The captain then cried out in a tone calculated to inspire us with confidence (which he afterwards told me his heart did not re-echo) —"that's nothing; it's all right; bale away, my boys:" he never expected us to live out the night, but harassed as he was both in mind and body, he gallantly stood up, and never, by word or deed, betrayed a feeling that might tend to sink our hopes. He stood on the bench that livelong night, nor did he ever attempt to sleep for nearly forty-eight hours.

After the change of the moon the weather began to moderate, and we enjoyed a comparative degree of comfort. We had three small meals of biscuit, and some little jam, &c., and three half-pints of water per day, with brandy if we liked it. The men had one gill of spirits allowed them daily. Thus we had enough for necessity, and I incline to attribute to our having no more the good state of bodily health we enjoyed. We had plenty of cigars, and whenever we could strike a light we contrived to smoke, and I never found tobacco so great a luxury as then. The ladies were most deserving compassion and praise, for though they could not move, and any little alteration in their dress could only be made by spreading a curtain before them, they never uttered one single word like repining or complaint.

On the thirteenth evening we began to look out for Rodrigue; the captain told us not to be too sanguine, as his chronometer was not to be depended on after the rough treatment it had met with. The night fell, and I went forward to sleep; but, about twelve, I was wakened by the cry that land was right a-head. I looked and saw a strong loom of land through the mist. The captain had the boat brought to for an hour, then made sail and ran towards it, and, at half-past two, it appeared still more strongly. We then lay to until day-light. I attempted to compose myself to sleep, but my feelings were too strong, and, after some useless attempts, I sat down and smoked with a sensation I had long been a stranger to.

With the first light of dawn Rodrigue appeared right a-head, distant about six miles; and, by eight

o'clock, we were all safely landed. A fisherman, who came off to show us the way through the reefs, received us in his house and proceeded to feed us, and, in the meantime, sent to tell the gentlemen of the island of our arrival. Two of them came down immediately, and having heard our story, said that we had been most miraculously preserved, and separated us into two parties,—the married men and their wives to one, and the single ones to the other, while the crew were taken inland and encamped. They then gave our bundles to their negroes, and took us to their houses, where every thing they had was set before us. Every arrangement was made for our comfort, and, during the period of our stay at Rodrigue, we were treated with such invariable kindness and attention as demands from us the fullest expression of our gratitude towards those to whom we are under so many obligations, without forgetting our paramount obligations to that Power by whom we were preserved through all the dangers that had surrounded us.

SPRING.

There is no season of the year so interesting to the naturalist as Spring. A thousand operations in nature now call forth his attention, and crowd upon his notice. Vegetation has commenced in earnest. The folded leaves are bursting through the ground,—the buds are swelling,—and the bark of the trees is covered with a green coat of delicate velvet moss. The snowdrop, the crocus, and the daisy, have already expanded their blossoms, as if to welcome the opening year. Nor is the change which now takes place among the animated tribes of earth, or air, or water, less remarkable. The insect race are teeming around us. The gnat tribe (*tipulidæ*) which even during winter, when the day was sunny, we saw swarming in the air, are now in countless myriads, moving as we move, and dancing around us. The sulphur butterfly (*papilio sulphurea*) flits along the sheltered bank and hedge-row. Several species of humble-bee have left the exuviæ of their chrysalis state in the earth, and are roaming in search of nectar-giving flowers. Numbers of the beetle tribe (*coleoptera*), which, like the dormouse, passed the winter in a state of *hybernation*, are now alert. Of these some had buried themselves, on the approach of the preceding winter, deep in the earth, as the dor (*scotrupes stercorarius*); others, as the water-beetles (*dytisci*, *hydrophili*, &c.), had burrowed into the mud at the bottom of the stagnant pools, in which they habitually reside; others again, as the rose-beetles (*staphylinus*, *oxytelus*, &c.), earwigs, and many more, had taken up their winter abode in crevices of walls,—beneath the bark or in the chinks of trees,—some solitary, others in clusters:—but the sun has effectually restored them to their wonted vigour.

There are few reptiles that inhabit the British isles,—and all of them hybernate. The snake buries itself in holes in banks, or retires beneath stacks of wood or heaps of litter; the lizard retreats into a hole or fissure of the ground; the water-newt and the frog plunge into the mud at the bottom of ponds and ditches; the toad creeps into crevices among old walls, or buries itself in the earth at the bottom of hedges or shrubs,—and thus in a dormant state they pass the winter. The frog is the first to bestir itself,—and its loud hoarse croak is heard in every stagnant pool. The female now produces multitudes of eggs, from which in a short time will proceed hosts of tadpoles,—whose element is essentially the water. For the frog, be it observed, begins active existence under circumstances which closely assimilate it to the fish: in its mature state, the frog, as is well known, breathes air, being furnished with lungs of great extent and capacity,—but the tadpole or *larva* of the frog breathes water, and has gills. On its first exclusion from the egg, however, its gills are not formed, but it has ten filaments projecting from the neck for the purpose of aërating the blood; these filaments are temporary gills. The *larva* of the eft, which is likewise essentially aquatic, has similar filaments, which drop off when the gills are formed. The following is a summary of the observations of a celebrated anatomist on the process:—On the 1st of April a number of the eggs of the frog were collected; on the 15th the tadpoles were hatched, but the filaments were not visible,—a deep notch on each side appeared nearly to separate the head from the body. On the 23rd the ten filaments on each side were distinct; on the 27th they had disappeared,—the gills were perfect. In June the external orifice on the right side, for the water to pass off from the gills, was obliterated, but that on the left was still very distinct: it gradually closed. July 8, the hind legs began to appear, but the toes were not separated. 14th. Hind-legs seen externally, and completely formed; the fore-legs were also formed, but concealed beneath the skin of the chest, and only to be discovered by dissection: the *lungs* completely formed. 18th. The elbows of the fore-legs projected under the external skin, and the lower part of the body became taper. 19th. Fore-legs disengaged, and the mouth, which was previously small and round, became wide and froglike; the tail had a notch at that part where it afterwards separates. 23rd. The tail dropped off, leaving the projecting root. the animal left the water and remained among the grass. 28th. The root of the tail completely obliterated.

After the frog the newt appears; and soon afterwards the snake leaves his bed to bask in the sun, and the warm showers invite the toad to crawl forth in quest of slugs and insects. Many of the fishes which live in the depths of the ocean now visit our shores in search of sandy or gravelly shallows in which to deposit their spawn; and some, as the salmon, ascend the clear and rapid rivers, advancing far inland, prompted by infallible instinct. The feathered tribes are full of bustle, and their lively notes are heard in coppice, wood, and field. Ever attractive, their actions now become doubly interesting. Some are selecting their mates, others are already preparing for the great work of nidification; nay, some have already callow broods demanding their assiduous protection. A remarkable change has, however, taken place, with respect to the ornithology of our island, and that so speedily, that it seems as if by the impulse of some common cause; and so it is. The warm gales which bring our summer birds of passage (the swallow, the goatsucker, and the nightingale) from the south, give notice to our winter visitors, who in our more temperate latitudes have found an asylum which their native wilds and morasses within the arctic circle denied,—that it is time for them to return,—that the earth is unbound, and the waters thawed. While, then, many have disappeared, many have arrived. Thus may the law of migration be compared to the flux and reflux of the tide; the stream sets northward in spring, and recoils southward on the approach of winter. Many birds common to Europe generally, while they are permanent residents in our island, are migrating in countries towards the north; this is the case with the *thrush*, and the *skylark*, which arrive in vast numbers towards the end of autumn, especially if the winter in the north be of more than usual severity.

Whence come our summer visitors? From Egypt and the northern regions of Africa, their winter place of refuge. Gradually have they been travelling northward, as the season opened,—now delayed, now encouraged to proceed; a few as if impatient to reach their destination, and advancing before the rest, anticipate the spring, and often perhaps perish; hence the adage "one swallow does not make a summer."

In due time, however, all arrive. Nor is this journey one of toil or difficulty, either going or returning. If we place a map before us we shall see how easily a bird of very moderate powers of flight may pass from our island into France, traverse Spain, and proceed into Africa; but the swallow from our island fears not to cross the Bay of Biscay, and doubtless advances in its aërial course with fewer delays than birds of feebler wing, performing its task with ease and celerity. Latham informs us that the swallow, on its return to Europe, "first appears at Gibraltar in the middle of February, and becomes numerous the first week in March;" and that "in September and the first part of October *myriads* of swallows arrive from the more northern tracts, and migrate daily to the Barbary shore, but always appear most numerous in a W. or S.W. wind." Adanson mentions the swallow as arriving in *Senegal after October*. The flight of migratory birds is mostly, if not always, performed during the night. Woodcocks are well known to arrive during this period; all the day they rest, and at night resume their journey. The red-backed shrike, and the wheatear, which abound on the downs of Kent and Sussex as autumn draws to a close, are well known to cross the British Channel at night, taking the opportunity of a favourable wind. Spring, however, does not rouse the energies of the feathered tribes only; it calls forth such of our smaller mammalia as hybernate from their dormitories. The bat is seen to flit along the lanes, and around the barn,—the hedgehog steals forth as evening closes in,—the dormouse is active, and the water-rat leaves its nightly tracks on the mud of the bank, and among the green chick-weed on the surface of the water. Such then are the effects of spring on the vegetable and animal kingdom; and hence is it a time of interest to the lover of nature,—to him who delights to read her laws and trace her operations. We subjoin an imperfect journal for February, March, and April, recommending our readers to improve it for themselves.

February 1 to 7.	The call-notes of the great tit and the blue tit heard.
"	Early lambs in the pastures.
"	The mole busy; fresh hillocks appearing every morning.
"	Occasionally a solitary bat appears, as we observed a few days since.
"	Hazel ornamented with catkins.
"	Furze in blossom; snowdrop.
—— 7 to 14.	Yellow-hammer chirps its call-note.
"	Brimstone-butterfly now and then seen.
—— 14 to 21.	Raven is preparing to incubate.
"	Rooks are patching up their nests, and clamorous.
"	Partridge calls, and begins to pair.
"	Coltsfoot in flower.
—— 21 to 28.	Notes of goldfinch heard.
"	Viper crawls abroad.
"	Missel-thrush begins to incubate.
"	Frog begins to be heard in the pools and ditches.
"	Stone-curlew calls to its mate.
"	Wood-pigeons pair.
——28 to March 7.	Violet blooms.
"	Wryneck heard.
"	Crow builds.
"	Pheasant crows to his mate.
"	The frog now abundant and clamorous.
"	Peach blossoms.
"	Willow has downy catkins.
"	Ducks and geese prepare to incubate.
March 7 to 14.	Peacock-butterfly seen.
"	Golden-crest (*Regulus*) warbles.
"	Yellow wagtail on the commons.
"	Trout in condition, and takes the fly.
—— 14 to 21.	Blackbird incubates.
"	Wheatear seen in small numbers.
"	Dormouse lively.
"	Hedgehog creeps forth.
"	Bittern booms in the marsh.
"	Turkey lays eggs.
"	House-pigeon has young.
—— 21 to 28.	Common snake seen.
"	Greenfinch chirps.
March 21 to 28.	House-sparrow mates.
"	Chiffchaff appears (*Sylvia Hippolais.*)
—— 28 to April 4.	Sand-martin appears.
"	Yellow-wren (*Sylvia Trochilus*) arrives; and black-cap appears, if the weather be fine.
April 4 to 11.	Swallow appears, and martin.
"	Snipe pipes.
"	Lizard comes forth.
"	Ladysmock in blossom.
"	Blackthorn in blossom.
"	Titlark sings.
"	Lark mounts and warbles.
"	Garden snail revives.
—— 11 to 18.	Redstart appears.
"	Woodwren arrives (*Sylvia sibilatrix*).
"	Whinchat arrives.
"	Grasshopper-warbler arrives; and the hedge-warbler (*Salicaria Phagmitis*); and the reed-wren (*Salicaria arundinacea*).
"	The cuckoo heard.
—— 18 to 26.	Black slug abounds.
"	Apple-tree flowers.
"	Cabbage-butterfly begins to appear.
"	Cherry and plum in flower.
"	Turtledove coos in the woods.
"	The larger bats appear.
"	Red-backed shrike arrives.
—— 26 to May 7.	Glow-worm shines.
"	Chaffer appears (*Melolontha*).
"	Nightingale and lesser whitethroat arrive in the south: they do not spread to the northern counties.
"	Common whitethroat and garden-warbler arrive.
"	Goatsucker arrives.
"	Swift arrives; and also the spotted flycatcher, if the weather be fine. This is one of the latest of our spring arrivals.
"	The jarring note-call of the green woodpecker may be heard.

American Bear Hunting.—Shortly after this I killed an old she-bear, which was perfectly white. She had four cubs; one white, with red eyes and red nails, like herself; one red [brown?], and two black. In size and other respects she was the same as the common black bear, but she had nothing black about her, except the skin of the lips. The fur of this kind is very fine, but not so highly valued by the traders as the red. The old one was very tame, and I killed her without difficulty; two of the young I shot in the hole, and two escaped into a tree. I had but just shot them when there came along three men, attracted probably by the sound of my gun. As these men were very hungry, I took them home with me, fed them, and gave them each a piece of meat to carry home. Next day I chased another bear into a low poplar tree, when I became convinced of the worthlessness of the gun I had from A-ke-wah-zains, for I shot fifteen times without killing the bear, and was compelled at last to climb into the tree, and put the muzzle of my gun close to his head before I could kill him. A few days after, as I was hunting, I started, at the same moment, an elk and three young bears, the latter running into a tree. I shot at the young bears, and two of them fell. As I thought one or both of them must only be wounded, I sprang immediately towards the root of the tree, but had scarce reached it when I saw the old she-bear come jumping in an opposite direction. She caught up the cub which had fallen nearest her, and raising it with her paws, while she stood on her hind feet, holding it as a woman holds her child, she looked at it for a moment, smelled the ball-hole, which was in its belly, and perceiving it was dead, dashed it down, and came directly towards me, gnashing her teeth, and walking so erect that her head stood as high as mine. All this was so sudden, that I had scarce reloaded my gun, having only time to raise it when she came within reach of the muzzle. I was now made to feel the necessity of a lesson the Indians had taught me, and which I very rarely neglected, namely, after discharging my gun, to think of nothing else before loading it again.—*Tanner's Narrative.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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